

A THICK OXIDE P-GATE NMOS CAPACITOR
FOR USE IN A PHASE -LOCKED LOOP CIRCUIT
AND METHOD OF MAKING SAME

ABSTRACT OF THE DISCLOSURE

In a low-pass filter for a phase locked loop (PLL) circuit, a capacitor formed by an N-type substrate, a P-type region formed on the N-type substrate, a thick oxide formed over the P-type region, a P⁺ gate electrode formed over the thick oxide and coupled to a first voltage supply line, and P⁺ pick-up terminals formed in the P-type region adjacent the gate electrode and coupled to a second voltage supply line, whereby a gate-to-substrate voltage is maintained at less than zero volts to maintain a stable control voltage for the PLL.

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